

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference OP-02-PCT	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2004/016325	International filing date (day/month/year) 04.11.2004	14.11.2003
International Patent Classification (IPC) or national classification and IPC G02F1/03, G02F2/02		
Applicant OPTICAL COMB INSTITUTE, INC. et al		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2.	This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.	
3.	This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>8</u> sheets, as follows: <div style="margin-left: 20px;"><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</div> b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) <div style="margin-left: 20px;">_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</div>	
4.	This report contains indications relating to the following items: <div style="margin-left: 20px;"><input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input checked="" type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application</div>	

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/016325

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☒ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:

- ☐ international search (Rule 12.3 and 23.1(b))
☐ publication of the international application (Rule 12.4)
☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☐ the international application as originally filed/furnished

☒ the description:

pages 1-3, 6-27 as originally filed/furnished

pages* 4, 4/1, 5, 5/1 received by this Authority on 14.09.2005

pages* _____ received by this Authority on _____

☒ the claims:

nos. 2, 4-6, 7, 10, 12 as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19

nos.* 1, 8, 9, 11, 13 received by this Authority on 14.09.2005

nos.* _____ received by this Authority on _____

☒ the drawings:

sheets 1-16 as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☒ the claims, nos. 3

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1, 2, 4-13	YES
	Claims		NO
Inventive step (IS)	Claims	1, 2, 4-13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1, 2, 4-13	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
Document 1:	JP 8-166610 A (The Kanagawa Academy of Science, Takanori SAITO), 25 June 1996 (25.06.96), paragraphs [0008] to [0011], (Family: none)		
Document 2:	JP 11-183858 A (Sumitomo Osaka Cement Co., Ltd.), 09 July 1999 (09.07.99), paragraphs [0012], [0021], (Family: none)		
Document 3:	JP 2003-228033 A (Sumitomo Osaka Cement Co., Ltd.), 15 August 2003 (15.08.03), paragraph [0024]; fig. 5, (Family: none)		
Document 4:	JP 5-323265 A (Nippon Telegraph And Telephone Corp.), 07 December 1993 (07.12.93), (Family: none)		
Document 5:	JP 7-159820 A (Nippon Telegraph And Telephone Corp.), 23 June 1995 (23.06.95), (Family: none)		
Document 6:	JP 2002-156669 A (Mitsui Chemicals, Inc.), 31 May 2002 (31.05.02), fig. 3 & EP 1186942 A2 & US 1343906 A1		
The inventions set forth in claims 1, 2 and 4-13 involve an inventive step in relation to the documents cited in the international search report. The feature			

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

wherein the phase of the light propagated in the outward direction is modulated by a modulation signal and the phase of the light propagated in the inward direction is modulated by a weighted signal is not disclosed in any of documents 1-6. Moreover, a person skilled in the art would not be able to conceive of this feature from the disclosures in documents 1-6.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claim 6 contains the wording "The optical frequency comb generator as set forth in claim 3, characterized in that..." but claim 3 has been deleted in the amendments.